

2004 INDIANA GYPSY MOTH SURVEY

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USDA, Forest Service, S&PF - Forest Health

The 2004 Cooperative Gypsy Moth Survey completed its seventeenth year of the statewide survey. The survey is part of the Slow-The-Spread (STS) Program and uses the STS protocol for its' design and operation dividing the state into three zones - the STS Evaluation Zone, the STS Action Zone, and the State Area (Figure 1). The survey design uses fixed 3K, fixed 2K and rotating 3K, respectively, for the three zones. Across all zones, the survey set 13,285 detection and 4,030 intensive traps all referenced by GPS. The survey detected 9,014 moths from 32 counties ranging from 1 to 2,520 moths per county (Figure 2). This is a decrease from 2002 and 2003 (15,569 & 23,090 respectively), but did not return to the low moth catch of 2000 (5,881).

The results of the 2004 survey found that the majority of the moth catch came in the Action Zone (Table 1). The Evaluation Zone, which includes the quarantined counties of Steuben, LaGrange, Elkhart, Noble, Allen, and DeKalb, detected 43.1% of the moths (3,887 of 9,014). The northern third of the state falls in the Action Zone, which is below the Evaluation Zone under STS protocol. The Action Zone detected 56.7% of the moths (5,108 of 9,014). The majority of the moth catch in this zone is located in the eastern part of the state directly under the Evaluation Zone. This year's high percent of moth capture in the Action Zone compared to 2003 (36.5%) is in part due to a large increase in the number of delimiting traps; approximately 1000 more traps than in previous years. The State Area detected 19 moths, primarily single moth detection traps. The State Area had two 3 count traps in two separate locations. All positive traps in the state zone are delimited the following year.

Treatments to eradicate and slow-the-spread and -development of gypsy moth were conducted on 39 sites in 13 counties (Table 2). Twenty-two sites totaling 3,969 acres were treated with Btk at 30 BIU/acre/application. Thirteen sites were treated with two applications (2,362 acres). Nine sites were inside mating disruption sites and treated with one application (1,607 acres). Eight sites totaling 8,298 acres and nine sites totaling 30,579 acres in eleven counties received one application of pheromone flakes for mating disruption at 6 and 15 grams, respectively, in June. Delimit surveys to monitor treatment success found two Btk blocks failed (Arcola & Cobb's Corners). This was most likely due to small block sizes and weather.

The aerial survey of the five northeastern counties in the Evaluation Zone and the other counties with treatment sites in the Action Zone did not detect defoliation. No defoliation was seen at Parkview Hospital in Fort Wayne, where, it was seen last year. This is due to the dramatic reduction in moth population. The hospital and surrounding areas were sprayed with Btk, which reduced the moth catch from 30,300 moths found in 130 traps in 2003 to 62 moths found in 15 traps this year. A treatment of Btk in 2005 has been purposed to "clean up" the site and to insure that management goals for the area are met.

The moth lines (Figure 3) projected for 2004 have remained static across the state with no significant change from the mothlines for 2002 and 2003. The survey and program to manage gypsy moth in Indiana continues to compress the distance between moth lines, thus slowing the spread of gypsy moth in Indiana. Since the survey began in 1972; 250,772 moths have been caught in 90 of the 92 counties. No new county records were set this year.

Table 1: Number of male gypsy moths caught in the three survey areas from 2002 to 2003.

Year	STS Evaluation Area	STS Action Area	State Area	Total
2004	3,887	5,108	19	9,014
2003	14,607	8,425	58	23,090
2002	9,018	6,752	27	15,797

Table 2: Gypsy moth treatment site for 2004 by county and treatment method.

		TREATMENT ACRES	
		by Treatment Method	
		Btk (aerial)	Mating disruption
Allen	Arcola	13	
	County Line-1	17	
	McDuffee	18	
	Northern Allen County		7152
	Parkview	1463	
	Pine Valley	52	
De Kalb	South West Dekalb		1102
	South West Dekalb BT1	2	
Elkhart	County Road 1	95	
	Elkhart		5127
	Elkhart BT1	148	
	Elkhart BT2	479	
	Elkhart BT3	241	
	Goshen Pond		819
	Middlebury		7573
	Middlebury BT1	431	
	Middlebury BT2	167	
	Middlebury BT3	58	
	Middlebury BT4	28	
Kosciusko	Lake Wawasee		1307

COUNTY	PROPOSED SITES	TREATMENT ACRES	
		by Treatment Method	
		Btk (aerial)	Mating disruption
La Porte	150 East	109	
	Pinhook Bog		1546
	Springville	120	
La Grange	Cass Lake	106	
Lake	Brookwood	296	
Marshall	Juniper 04		469
Noble	300 South	2	
	Big Lake		442
	Kendallville		1751
	Merriam Chapel		110
	South East Noble		676
Porter	Cobbs Corner	63	
	Crisman		909
Scott	Crothersville		237
St. Joseph	South Bend West		3299
Whitley	Blue Lake		1549
	Churubusco	56	
	Riley Rd	2	
	Walnut Corner		89
Totals by Treatments		3212	23080
Totals by All Treatments		26292	

Figure 1: STS Action Zones for 2004

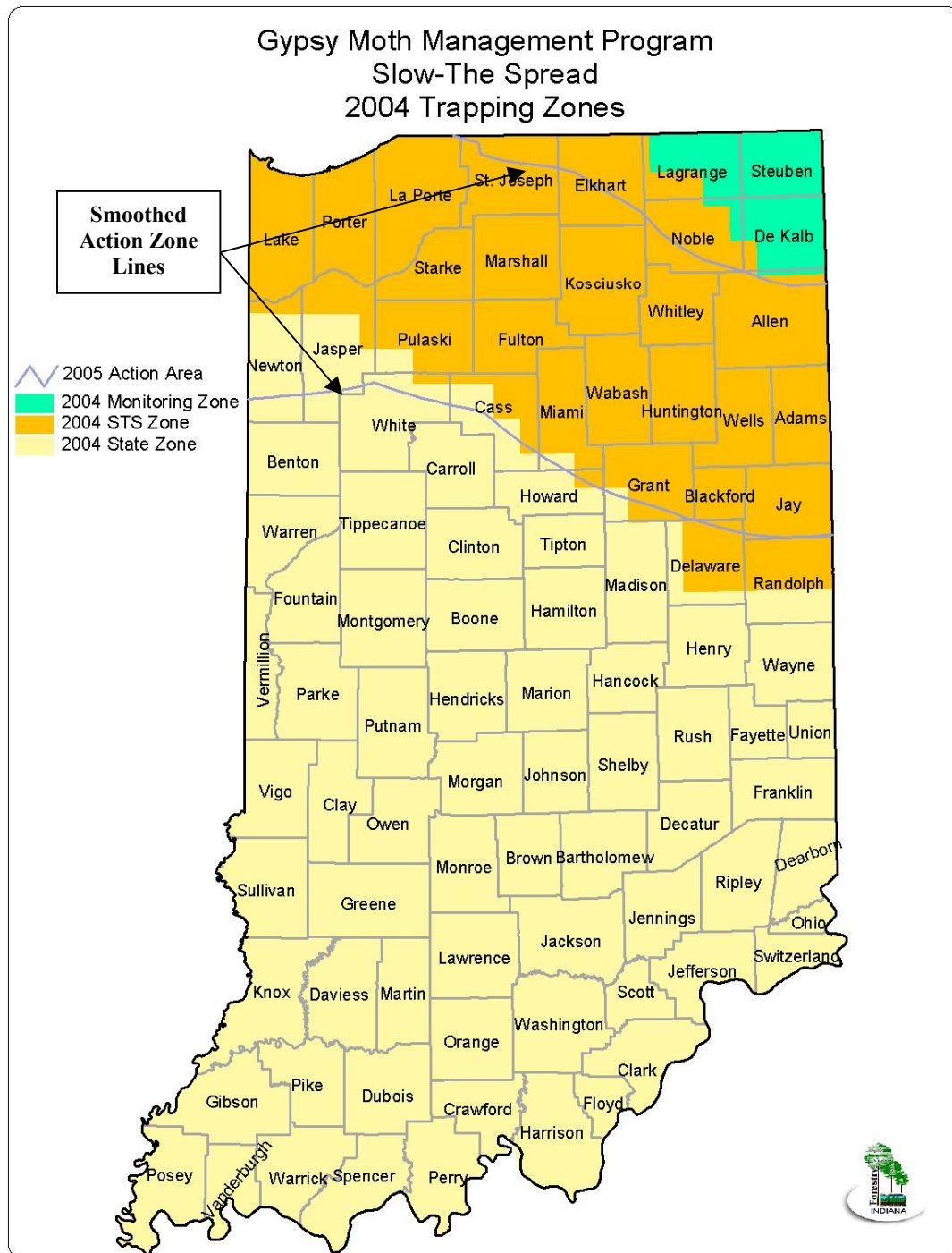


Figure 2: Number of male moths caught per county

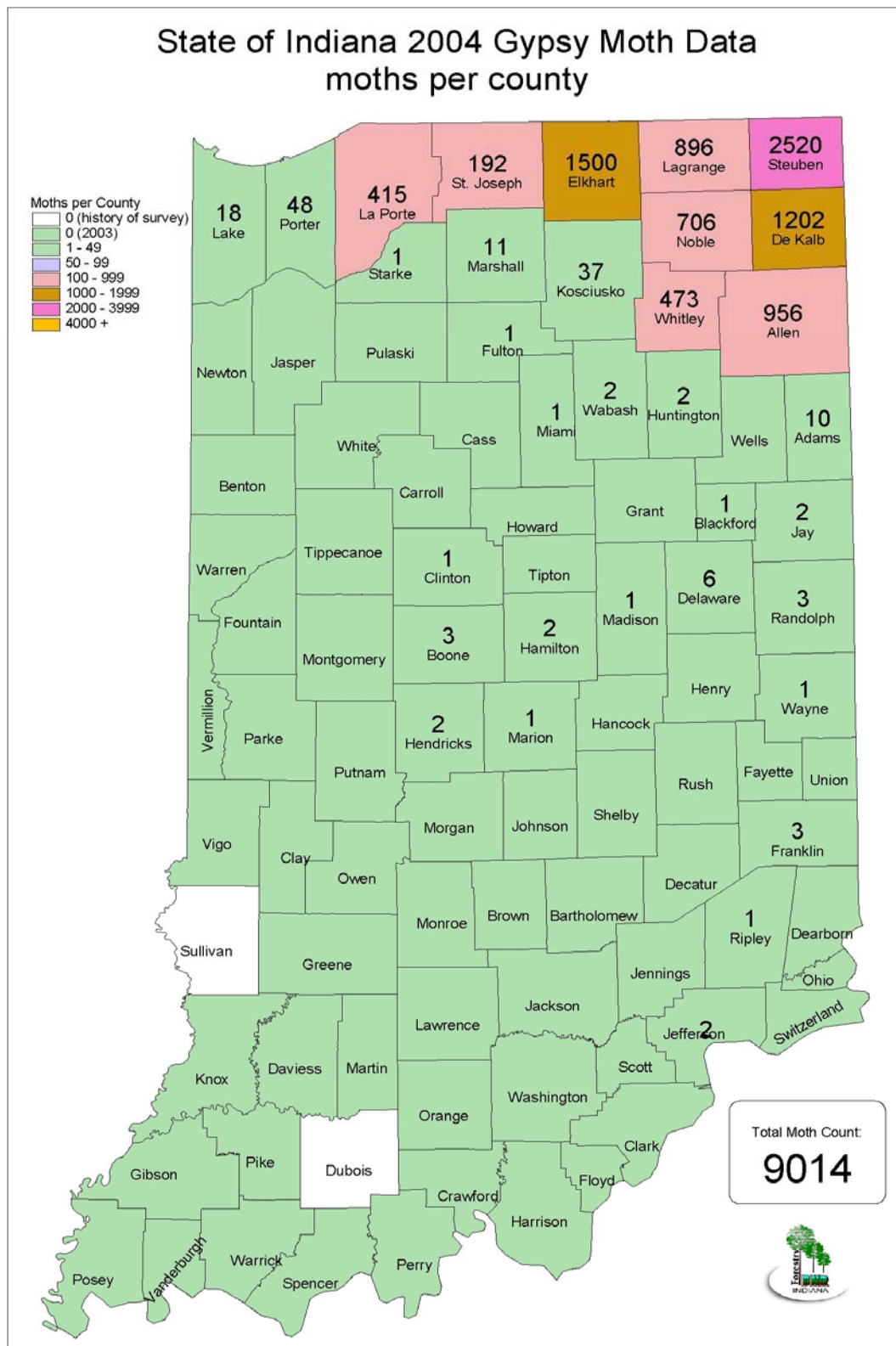
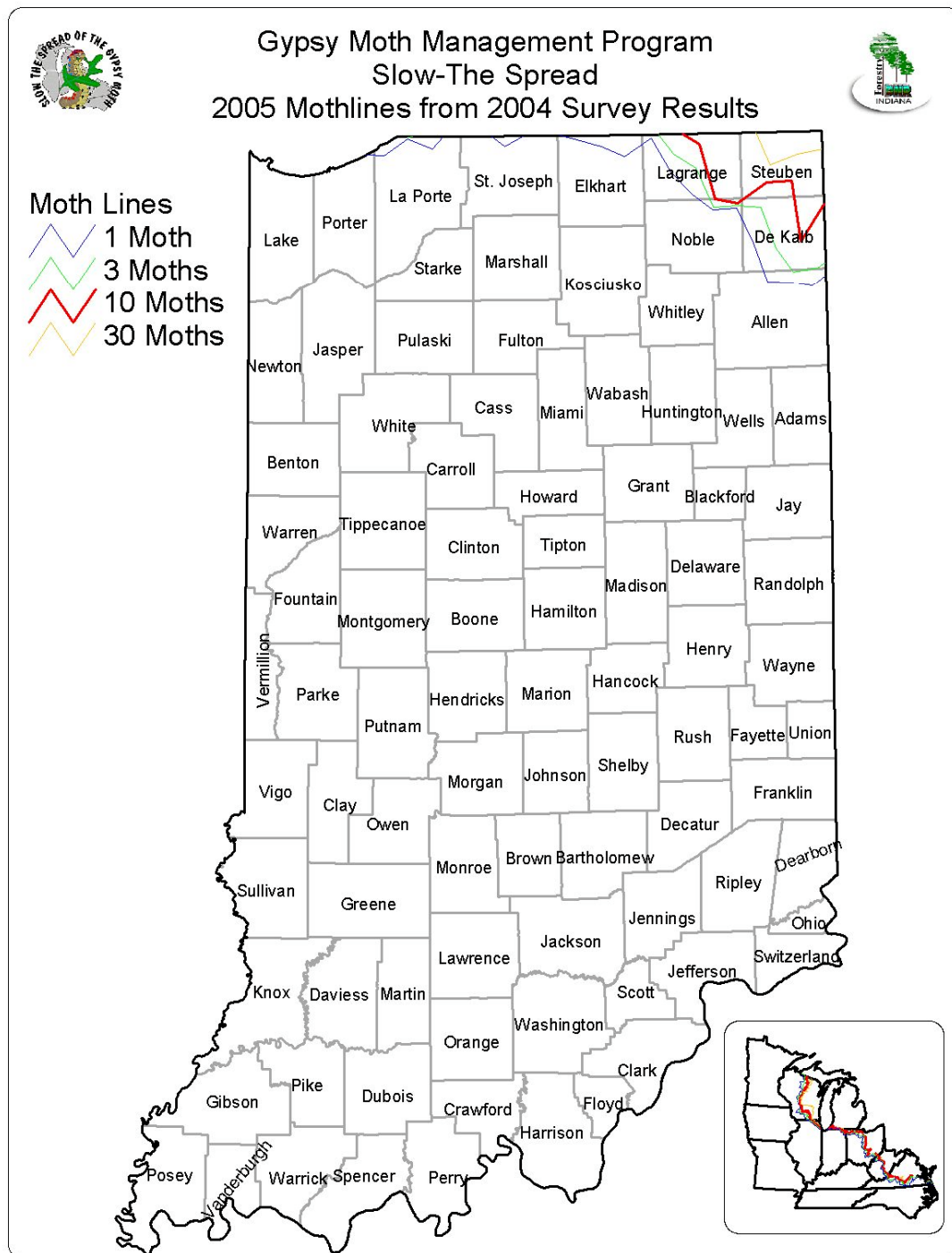
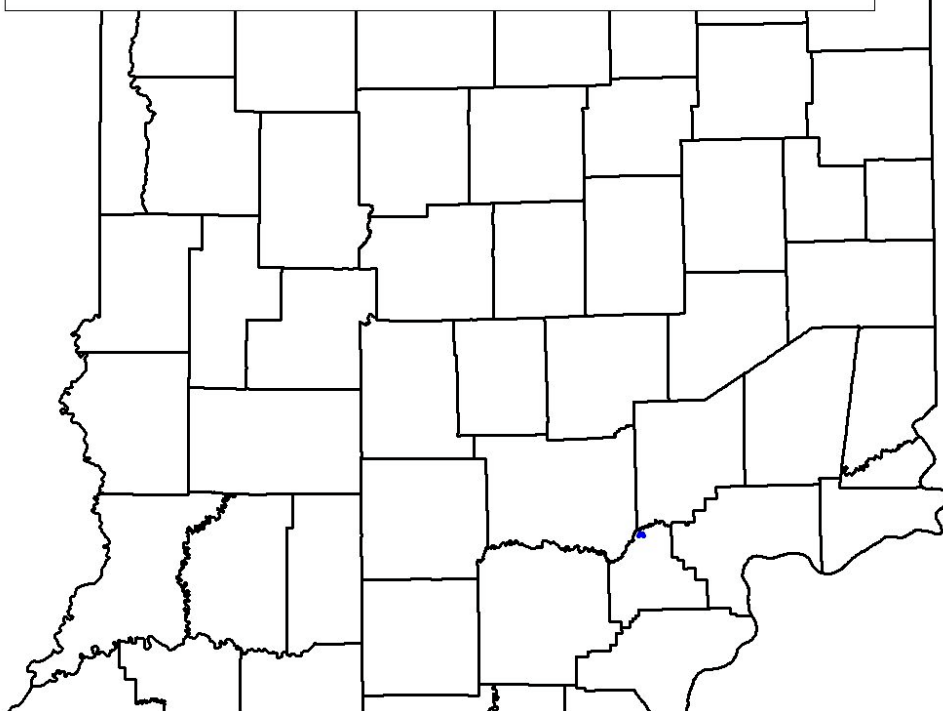
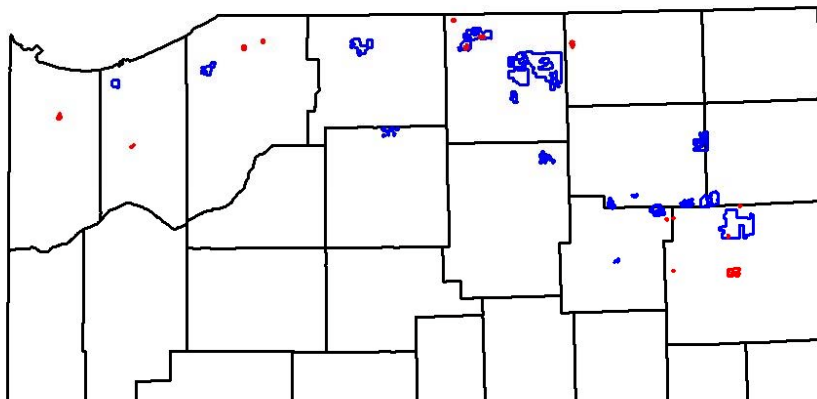


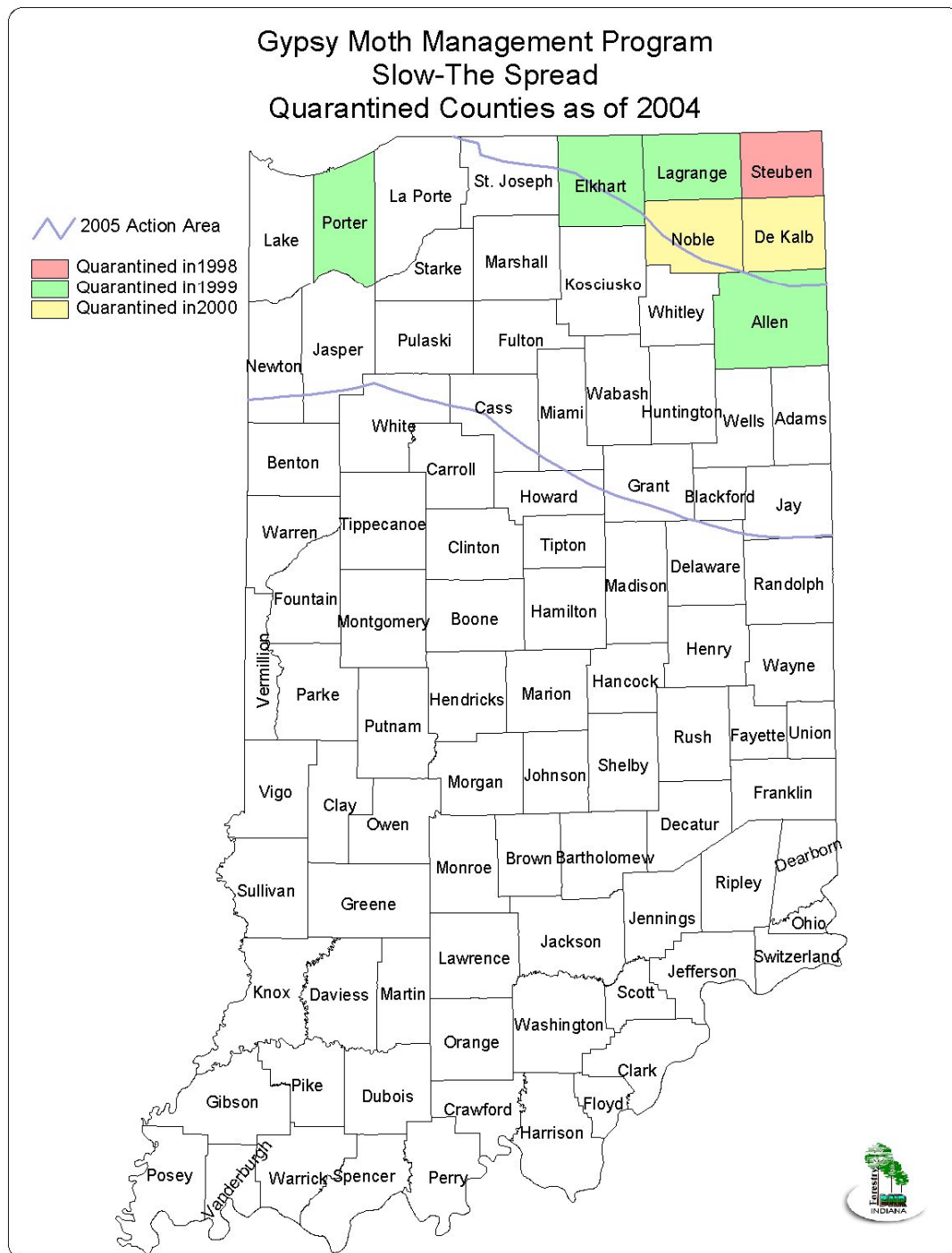
Figure 3: 2004 smoothed moth lines.



2004 Gypsy Moth Treatments



Current quarantined counties



No new counties were quarantine in 2004.